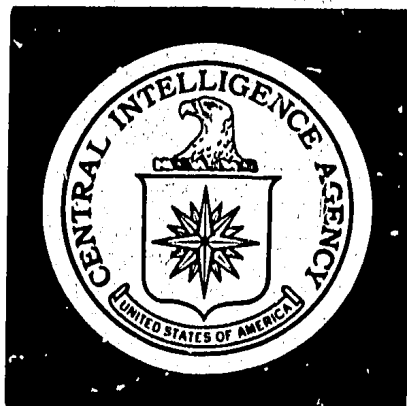


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DIRECTORATE OF  
INTELLIGENCE

# Intelligence Memorandum

*Eastern Europe's 1970 Grain Harvest Down*

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ER IM 70-133  
September 1970

Copy No. 52

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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
September 1970

## INTELLIGENCE MEMORANDUM

Eastern Europe's 1970 Grain Harvest DownIntroduction

Because of unfavorable weather, Eastern Europe's\* 1970 grain harvest may be the smallest in several years. The extent of the shortfall still is uncertain; harvesting has been delayed by the late maturing of crops and by rain. Nevertheless, the importance of grain production to East European livestock production and foreign exchange balances warrants a pre-harvest evaluation.

This memorandum first discusses the major weather developments beginning last fall that have affected sown areas and prospective yields of grain. Second, it provides a preliminary estimate of 1970 total grain production, including bread grain, by country and region, based on information available up to mid-August. Third, it briefly assesses the impact that the estimated shortfall in grain output may have on livestock production and grain import requirements in the coming months.

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\* The term East European (or Eastern Europe) includes the northern countries of Czechoslovakia, East Germany, and Poland and the southern countries of Bulgaria, Hungary, Romania, and Yugoslavia.

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Economic Research.

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**CONFIDENTIAL**Weather Troubles

1. The substantial increases in grain output achieved in 1965-68 reflected the use of more fertilizer and high-yielding grain varieties together with increased mechanization. In 1969, output was maintained. This year, a combination of unfavorable weather conditions has far outweighed the effect of increased inputs. Since the fall of 1969, drought, heavy snows, unseasonable cold, and floods have plagued Eastern Europe. As a result, both yields and the total areas to be harvested for most grain crops, especially bread grain, will be smaller in 1970 than in 1969. As of 15 August, prospective grain harvests had been reduced the most in Czechoslovakia, Poland, Romania, and Yugoslavia; those in Bulgaria, the least.

Winter Grain

2. Dry soil conditions last fall reduced the area seeded to winter grain -- by as much as 10% in Yugoslavia -- and delayed germination. The relatively large areas of poorly developed winter grain plantings were very susceptible to winterkill during the long, severe winter that began in early December, with heavy snows occurring as late as early April. In May, flooding and water-logged fields, resulting from a sudden thaw and heavy precipitation, destroyed or damaged an estimated 10% to 15% of the winter wheat acreage in Romania and nearly as large a share in Hungary and Yugoslavia. In the northern countries, large areas of winter grain -- especially rye -- destroyed by snow mold from the extended snow cover had to be replanted to lower yielding spring grain. Polish leader Gomulka stated on 3 July that because of winter damage 800,000 hectares, or 20% of the rye acreage, had been plowed up last spring and another one million hectares had been thinned out. The Czechs admit to ploughing under 25% of the winter rye and 6% of the winter wheat acreage. East German press reports also admitted above-normal damage to winter grain plantings, especially from water-logging in the northern *Bezirke*, but have released no statistics.

Spring Grain

3. The same conditions -- late snow and wet fields in the north, heavy rain and flooding in the

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south -- impeded the seeding of spring grain. By mid-April, farmers in the northern provinces of East Germany and Poland had barely started spring seeding operations, normally completed by this time. The curtailed planting season and shortages of seed prevented the complete replanting of winterkilled wheat and rye areas to spring wheat. Consequently, the total area of bread grain for the northern countries is down 9% from 1969. Although somewhat larger areas of spring barley, oats, and (in Czechoslovakia) corn were planted than in 1969, the increase did not offset fully the decline in winter grain acreage; and the total area seeded was 3% less than last year. Development of both winter and spring planted grains was retarded by below-normal temperatures through May. In June the weather turned hot and dry, helping to reduce the lag in plant development but also causing premature heading of winter grain in some areas. By mid-July, late-planted spring grains in East Germany, western Poland, and central Czechoslovakia were suffering from inadequate soil moisture. Heavy rains in southern East Germany, south-central Poland, and Czechoslovakia during the last 10 days of July and early August provided needed soil moisture for most crops, but they also caused local flooding and extensive lodging of winter grain fields just prior to harvesting. Such adverse field conditions further complicate and delay harvesting operations, with resultant reduction in yields and quality of grain.\*

4. Except in Bulgaria, planting and development of spring grains in the southern countries also was held up by the wet, cold spring weather. Planting of the important corn crop came well after the 10 May optimum planting period on wet lowlands in Hungary, Yugoslavia, and Romania. In some areas of Romania, because of May-June flooding, corn was replanted three times; the last as late as 15 June. Although the effort to expand corn acreage -- partly as a replacement for winter wheat losses -- was largely successful in all the southern countries except Yugoslavia, the total area in grain exceeds

\* The Czechoslovak newspaper Rude Pravo reported on 30 July that in the East Slovak region 75% of the grain was lodged, requiring hand harvesting.

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the 1969 acreage only in Bulgaria. The summer brought new problems. Rains in late July and early August interrupted or delayed harvesting of small grains, especially wheat and spring barley in Hungary, Romania, and Yugoslavia. The Hungarian wheat harvest, normally completed by about mid-July, was barely half finished by 1 August; harvesting in other southern countries was more advanced but still lagging. As in the northern countries, these delays, combined with lodging, high moisture content of grain, and weedy fields, will raise harvesting losses and affect quality. The outlook for corn and other crops harvested in the late fall is somewhat more favorable. Soil moisture reserves for the southern countries as of 31 July were better than or as good as a year ago (see Table 1). Even so, optimum growing and harvesting conditions during the period August to October -- including normal precipitation and above-normal temperatures -- will be needed to overcome earlier setbacks to yield prospects for corn and root crops.

Table 1

Eastern Europe: Soil Moisture Reserves  
as a Percent of Long-run Average

<u>Country</u>	<u>As of 31 July</u>		
	<u>1968</u>	<u>1969</u>	<u>1970</u>
Bulgaria	29	80	93
Czechoslovakia	70	62	92
East Germany	79	76	83
Hungary	40	100	132
Poland	105	61	128
Romania	51	163	156
Yugoslavia (Vojvodina)	66	148	154

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1970 Grain Production Down

5. Total grain production in 1970 is estimated at about 66 million tons, an 11% drop from the record level of 1969 and slightly below the 1964-68 average annual output (see Table 2). The prospective grain harvest is below last year's in every East European country except Bulgaria. For the other countries, estimated declines in production range from about 1% in East Germany -- where the 1969 harvest was mediocre -- to 16% in Poland. The most significant production setbacks occurred in Romania and Yugoslavia, where estimated output will drop not only below the 1969 level but also below the 1964-68 annual average output -- by 10% and 5%, respectively. Although total Bulgarian grain production may exceed that of 1969 by an estimated 5%, it will fall far short of planned goals.

6. Throughout Eastern Europe, bad weather has adversely affected bread grain production more than that of coarse grains (barley, oats, and corn). The production of bread grains, which accounts for about 50% of the total grain produced in the region, is expected to show a sharp decline of 15% or more from last year's above-average harvest on a 10% smaller area. Similar percentage reductions are envisioned for both the northern and southern regions, reflecting production shortfalls of rye in the northern and wheat in the southern countries. Only Czechoslovakia and Hungary have any chance to achieve average to above-average bread grain harvests. However, August reports of difficult harvesting conditions and delays in combining ripe grain could result in below-average harvests for these latter two countries as well. The largest deviations from average harvests are estimated drops of 28% for Romania and 12% for Bulgaria. For Romania, 1970 represents the third successive below-average bread grain harvest and possibly the smallest in a decade. In Czechoslovakia, Hungary, and Yugoslavia, early returns on procurements indicate not only that the wheat harvest is down but also that milling quality is the poorest in several years.

7. Total output of coarse grains -- largely used to feed livestock -- is currently projected at 93% of the record 39.0 million tons harvested last year, but 8% above the 1964-68 annual average. Although the total harvested area of coarse grains for



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Table 2

Eastern Europe: Production of Bread Grain a/  
and Total Grains b/

Country and Commodity	Million Metric Tons				1970 as a Percent of 1969
	1964-68 c/	1968	1969	1970 d/	
<u>Northern region</u>					
Czechoslovakia					
Bread grain	3.14	3.92	3.96	3.16	80
Total grain	6.05	7.36	7.89	6.71	85
East Germany					
Bread grain	3.70	4.31	3.53	3.64	103
Total grain	6.82	7.83	6.92	6.82	99
Poland					
Bread grain	11.57	13.19	12.90	10.46	81
Total grain	16.16	18.20	18.55	15.66	84
<u>Subtotal</u>					
Bread grain	18.41	21.42	20.39	17.26	85
Total grain	29.03	33.39	33.36	29.19	88
<u>Southern region</u>					
Bulgaria					
Bread grain	2.85	2.57	2.57	2.52	98
Total grain	5.74	5.22	5.96	6.28	105
Hungary					
Bread grain	2.68	3.07	3.30	2.68	81
Total grain	7.32	7.80	9.02	7.78	86
Romania					
Bread grain	5.19	4.90	4.40	3.74	85
Total grain	12.71	12.70	12.78	11.43	89
Yugoslavia					
Bread grain	4.35	4.50	5.02	4.00	80
Total grain	12.26	12.05	13.60	11.70	86
<u>Subtotal</u>					
Bread grain	15.07	15.04	15.29	12.94	85
Total grain	38.03	37.77	41.36	37.19	90
<u>Eastern Europe total</u>					
Bread grain	35.48	36.56	35.68	30.20	85
Total grain	67.06	71.16	74.72	66.38	89

a. Wheat and rye.

b. Wheat, rye, barley, oats, corn, and mixtures (East Germany and Poland); does not include fodder wheat for Hungary.

c. Annual average production.

d. Preliminary estimate.

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the region will be about the same as last year, average yields per hectare will be down. Some additional downward adjustment in estimates of both acreage and yields may be necessary when the full extent of damage to crops from floods and July hail in the southern region, and from difficult harvesting conditions in northern countries, becomes known. Within the region, only Bulgaria is expected to have a larger output than in 1969, a result of an 11% expansion in corn acreage and only minor damage from flooding. The other southern countries, all hit by floods, will suffer drops in output of about 10%. For example, floods destroyed or prevented the replanting of about 6% of the Romanian corn crop. Although corn yields will be above average, they are unlikely to equal those of last year. Also, in Romania and Yugoslavia there is the danger that an early frost will prevent late plantings of corn from fully maturing for grain.

Non-Grain Prospects

8. Eastern Europe's total output of important non-grain crops, such as potatoes, sugar beets, vegetables, and oilseeds, will be about average -- considerably better than the drought-reduced level of last year, barring a late summer dry spell, but not up to the high levels of 1967 or 1968. This forecast is based on the adverse effect that late spring planting has had on yields and the fact that acreage for most crops is at or slightly below the 1969 level, especially in the northern countries which are the major producers of these crops. The best prospects are for oilseeds, particularly sunflower seeds, in all the southern countries except Yugoslavia, where increased acreage and higher yields could result in a record output. Production of forage crops and late vegetables should be above last year in all countries, except possibly Romania. However, the length of the growing season (date of first frost) will be critical, given the late development of most crops. The expected impact of the higher forage yield on the fodder balance in some countries may be blunted by high loss of nutrients from delayed harvesting and high moisture content of stored hay. Output of potatoes and sugar beets should be about average, assuming normal temperatures and precipitation from now through October. Yields may be above-average but the area planted, especially for sugar beets, is not so large as in 1969.

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**CONFIDENTIAL**Meat Production Outlook

9. The major thrust of agricultural plans for 1970 and 1971-75 is to step up output of livestock products, particularly red meat, to satisfy rising demand of consumers while improving the foreign trade balance. This became especially important following the downturn last year in pork production, which sharply increased imports. Even the traditional exporters, Hungary and Poland,\* had to import pork. Prospects for improving red meat production this year continue to be rather dim in the northern countries and only fair in the southern countries. Czechoslovakia, East Germany, and Hungary may have to increase imports of pork for the second consecutive year. In the northern countries, short harvests of grain -- especially rye, an important feed grain -- will not permit the gains in slaughter weights of livestock needed to achieve an increase in meat production. In the southern countries, relatively good feed supplies will allow some rebuilding of herds, but only if rates of slaughter are held down. The one bright spot in the livestock picture is for poultry and eggs, which could set production records this year.

Demand for Grain Imports

10. Eastern Europe's demand for imported grain in fiscal year (FY) 1971 may be as high as 7.5 million tons, nearly a million tons more than last year. Grain imports by the deficit-producing northern countries are expected to stay at the high levels of last year while those of most southern countries, especially Yugoslavia, may increase. Yugoslavia, self-sufficient in wheat last year, may need to import as much as 700,000 tons this year. Bulgaria is the only country likely to reduce imports of grain, and then only if the corn crop is good. Although Hungary and Romania claim that this year's wheat harvests will cover domestic requirements, the poor milling quality of grain may force both countries to import some higher quality wheat for

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their milling industries. The northern countries, in addition to short harvests of bread grain, also are troubled by a smaller than usual share of higher quality wheat in this year's harvest. Thus import demand will be stronger than usual for milling-quality wheat or rye and weaker for feed grains. It is estimated that as much as 70% of Eastern Europe's total grain imports in FY 71 could be wheat compared with about 60% last year, halting a 6-year downward trend in wheat imports. The demand for imports of high-protein feed supplements is expected to remain strong in order to support plans for boosting poultry and hog production.

11. As yet there is no indication of how much grain Eastern Europe plans to purchase in Free World markets over the next 12 months. Because of hard currency shortages, the northern countries are undoubtedly hoping to obtain a somewhat larger share of their grain import requirements from the USSR than last year. If current forecasts of a record Soviet wheat harvest hold, the USSR would be in a position to increase exports to Eastern Europe in 1971. Since annual trade agreements with the USSR for grain are not finalized until the October-November period, it may be several months before Eastern Europe's demand for Western grain, particularly wheat, becomes fully known. Regardless of Soviet commitments, the northern countries will still have to buy corn and other feed grains in the West, although possibly in smaller quantities than last year. Yugoslavia and Romania are expected to meet grain import requirements largely through Western purchases. The US Commodity Credit Corporation has already extended lines of credit to Romania that allow for purchases of barley and wheat. Romania might also attempt to borrow grain from the USSR in order to conserve foreign exchange.

12. Finally, all the southern countries except Bulgaria will have sharply reduced hard currency earnings this year from grain exports. Hungary, which exported an estimated 700,000 tons of wheat last year, may be a net importer. Romania, the largest grain exporter in Eastern Europe, for the third successive year will have to curtail grain exports; total shipments may amount to no more than 500,000 tons of corn compared with annual average grain exports of 1.8 million tons during 1967-69.

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Conclusions

13. This year's grain harvest in Eastern Europe is currently estimated to be 11% below last year's record harvest and slightly below the 1964-68 annual average, mainly because of unfavorable weather. As of 15 August the expected reduction in output below the 1969 level is greater for bread grain (15%) than for coarse grain (7%). Deteriorating weather conditions during the balance of the growing season could further reduce output. Only Bulgaria is expected to harvest a larger grain crop than last year. The most significant production shortfall has occurred in Romania, where floods and other weather difficulties have cut grain output to 90% of the 1964-68 annual average. Of the non-grain crops, above-average harvests are projected only for oilseeds; other crops will be better than last year in northern countries but no better than average.

14. The combination of a below-average grain harvest and smaller inventories of meat animals will continue to slow development of the livestock sector in most countries. The average consumer can expect no improvement in red meat supplies before 1971. Imports of pork by most countries will continue to be necessary to help satisfy domestic demand. Although total production of meat may stagnate or decline for the region, exports of young slaughter cattle to the European Economic Community (EEC) will be maintained at or above the 1969 level.

15. Total grain imports by Eastern Europe in FY 71 may exceed last year's by as much as one million tons. The increase largely reflects expected imports by Yugoslavia -- self-sufficient in wheat last year -- of upwards of 700,000 tons of wheat and smaller imports by Hungary and Romania. The northern countries probably will maintain imports at last year's high level, but demand will be stronger for milling-quality wheat and weaker for feed grain because a large share of the rye and wheat harvest is below average milling quality. There is no indication as to whether the USSR, with a probable record harvest of wheat, will increase exports to Eastern Europe. If Eastern Europe has to increase grain imports from the West, balance-of-payments problems in FY 71 will be intensified for most countries. On the basis of the 1970 harvest, Bulgaria currently appears to be the only country in a position to expand agricultural exports in 1970.